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IMPROVEMENT IN DIASTOLIC INDICES BY RANOLAZINE: A POTENTIAL MECHANISM FOR ITS ANTI-ISCHEMIC AND ANTIARRHYTHMIC EFFECTS

Poster Contributions
Poster Hall B1
Sunday, March 15, 2015, 9:45 a.m.-10:30 a.m.

Session Title: What Constitutes Anti Arrhythmic Therapy for Atrial Fibrillation?
Abstract Category: 4. Arrhythmias and Clinical EP: AF/SVT
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Background: Ranolazine (R) is approved for the management of chronic angina. While the exact mechanism of action of R is unknown, it has been found to affect the cardiac late sodium current, as well as inhibit the rapid delayed rectifier potassium current, which is effective in patients with ventricular and supraventricular arrhythmias. We hypothesized that the anti-ischemic and antiarrhythmic effect of R may be related to improvement in left ventricular diastolic function. We, therefore, investigated the effect of R on diastolic function.

Methods: In a retrospective data analysis, the effect of R (500mg bid) was measured in 25 patients (52% male) with chronic angina and mean age of 81±8 years. Trans-thoracic echocardiograms were obtained before and after R. The left ventricular ejection fraction (LVEF), left atrium dimension (LAD), the ratio of mitral peak early filling velocity to mitral peak late diastolic filling velocity (E/A), ratio of E to mitral annular velocities (E/E'), LA end systolic volume index, and mitral regurgitation levels were calculated before and after R.

Results: LAD was decreased and LVEF was increased significantly. The other diastolic indices were not changed significantly. The effects of R on LAD and LVEF are summarized in the table below:

Conclusion: To our knowledge this is the first report of the role of R in LA remodeling, an indication of diastolic function, which may explain its anti-angina and antiarrhythmic effects. Larger randomized prospective trials are warranted.

	LAD (mm)	LVEF (%)
Before	46 ± 6	60 ± 9
After	43 ± 7	64 ± 8
P-Value	0.01	0.008